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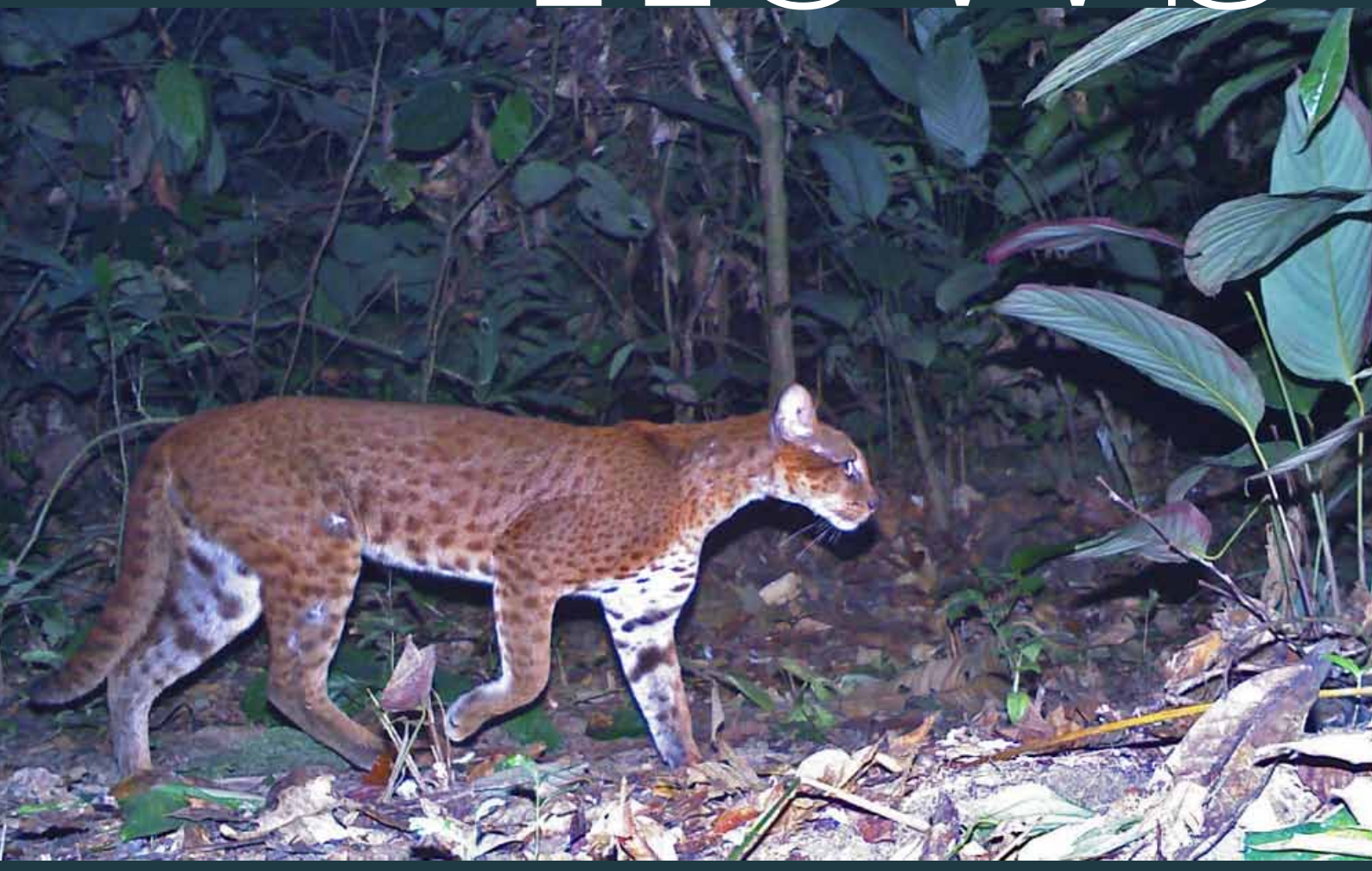

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SALVADOR LYNGDOH[1], K.M SELVAN[1], G.V GOPI[2*] AND BILAL HABIB[3]

First photos of marbled cat in Pakke Tiger Reserve, Western Arunachal Pradesh, India

The marbled cat is the least studied small cat in Southeast Asia and is also perhaps the most enigmatic. We present the first photographic evidence of a marbled cat *Pardofelis marmorata* in the semi-tropical evergreen forests of Pakke Tiger Reserve in the Assam Valley in Arunachal Pradesh, northeast India. We also present evidence of hunting which is one of the threats to marbled cats in this region.

The marbled cat is found in tropical Indo-malaya westward along the Himalayan foothills into Nepal and eastward into southwest China and on the islands of Sumatra and Borneo. There are few confirmed location records for this species (Nowell & Jackson 1996, Sunquist & Sunquist 2002). It is listed under Schedule I of the Indian Wildlife Protection Act, 1972, and also considered as Vulnerable by the IUCN (Hearn et al. 2008). The marbled cat is primarily associated with moist and mixed deciduous evergreen tropical forest (Rabinowitz & Walker 1991, Nowell & Jackson 1996) and may prefer hill forest (Duckworth et al. 2005, Holden 2001, Grassman et al. 2005, Morino 2009). A few sightings have been made in secondary forest or cleared areas near forests, but this cat is likely to be forest-dependent (Nowell & Jackson 1996). Grassman & Tewes (2002) reported that a pair of adult marbled cats had been observed at a salt lick in Thailand's Phu Khieu National Park, and earlier reports in the 1970s recorded the cat's presence in China's Yunnan Province (Wang and Wang 1986). The marbled cat is the size of a large domestic cat and resembles the clouded leopard morphologically and has a long tail, cloudlike pelage pattern and elongated canines (Pocock 1932, Sunquist & Sunquist 2002). In India the species seems to be restricted to the eastern Himalayan foothills between 1,500 m and 3,000 m altitude, associated with moist deciduous and semi-evergreen forest habitats (Biswas & Ghose 1982, Banerjee 1984). The marbled cat is found in the northeastern states of India as well as in Jammu and Kashmir (Menon 2003). Recent reports from India come from Arunachal Pradesh (Mishra et al. 2006, Datta et al. 2008) and Manipur (Ramakantha et al. 2003).

Study Area

Pakke Tiger Reserve (PTR), 92°36′ – 93°09′ E and 26°54′ – 27°16′ N, is spread over 862 km² in the East and West Kameng Districts of Arunachal Pradesh in the foothills of the Lesser Himalayas. Since Pakke was declared as a sanctuary in 1977 and thereafter a tiger reserve in 2002, conservation has focussed on the tiger as the flagship species. This area has great biological significance due to the richness of its flora and fauna, a result of its location in the Indo-malayan ecoregion and has been considered as one of the hotspots for biodiversity (Myers 1991). The area has a subtropical climate with cold weather from November to March. It receives rainfall from both the southwest (May-September) and northeast monsoons (November-April). The temperature in the summer goes up to 30° C and down to 2° C in the winter. The terrain is undulating and the altitude ranges from 150 m to 2,300 m. The general vegetation type of the PTR is classified as Assam Valley tropical semi-evergreen forest (Champion & Seth 1968, Borah et al. 2010) dominated by Euphorbiaceae, Lauraceae, Meliaceae, Anacardiaceae and Annonaceae species and made up of tropical evergreen, tropical semi-evergreen and secondary moist bamboo tracts. The study area includes more than 50 villages surrounding the tiger reserve; these villages are primarily dependent on forest products and resources.

Fig. 1. Camera trap picture of obtained from Pakke Tiger Reserve, Arunachal Pradesh, India (Photo Wildlife Institute of India).

Methods

As part of an ongoing Department of Science and Technology (DST) funded research programme of the Wildlife Institute of India (WII), we carried out gridwise sampling for the estimation of dhole *Cuon alpinus* abundance in PTR. Passive camera traps (Moultrie D-40, Moultrie Feeders, Alabama, USA) were deployed in several locations with a distance of 2-3 km between each unit and were used to estimate other mammal species as well. Cameras were operated 24x7 with a delay of 1 minute for 33 days, yielding a total of 1,638 trap nights.

371 households were interviewed in a socio-economic survey spanning 3 districts of western Arunchal Pradesh: East kameng, Papumpare and Lower Subansiri. Various questions pertaining to livelihood and awareness as well as hunting practices were asked, and answers were noted down in a standard questionnaire.

Results and Discussion

The marbled cat was photo-captured (Fig. 1) on the 43rd sampling day at 06:40 and subsequently on the 48th sampling day at 15:18 at the 11th camera trap station (27.07104°N, 93.78225° E, at 553 m).

Earlier records of marbled cats were based on reports from local people from surrounding villages (Datta et al. 2008), and evidence of its presence was determined from skins.

Fig. 2. Local village head with marbled cat skin that he hunted (Photo S. Lyngdoh).

These are usually kept for ritualistic purposes or as trophies by the local Nyishi tribes who dominate the area. In higher areas of PTR residents have reported sightings and successful hunts of the marbled cat, and this was confirmed by showing photographs of the marbled cat to avoid any confusion with other lesser cats or carnivores. The marbled cat has also been reported by local people as a nuisance because of its predation on poultry and other small livestock (Mishra et al. 2006). One skin preserved for ritualistic and decorative purposes (Fig. 2) was found in Pakke Kesang in the northeast of PTR.

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